An Analysis of a Joint and Expeditionary Mindset

William J. Walsh
Clark Shingledecker
JXT Applications, Inc.

20070111114

December 2006

**United States Army Research Institute
for the Behavioral and Social Sciences**

REPORT DOCUMENTATION PAGE

1. REPORT DATE (dd-mm-yy) December 2006	2. REPORT TYPE Final	3. DATES COVERED (from. . . to) March 06 – September 06	
4. TITLE AND SUBTITLE An Analysis of a Joint and Expeditionary Mindset:		5a. CONTRACT OR GRANT NUMBER W74V8H-06-P-0192	
		5b. PROGRAM ELEMENT NUMBER 66550	
6. AUTHOR(S) William J. Walsh Clark A. Shingledecker		5c. PROJECT NUMBER M770	
		5d. TASK NUMBER 215	
		5e. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) JXT Applications, Inc. 2673 Commons Blvd., Suite 20 Beavercreek, OH 45434		8. PERFORMING ORGANIZATION REPORT NUMBER	

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)
  U.S. Army Research Institute for the Behavioral and Social
    Sciences
2511 Jefferson David Highway
Arlington, VA 22202-3926
		10. MONITOR ACRONYM
		  ARI	

		11. MONITOR REPORT NUMBER Contractor Report 2007-05	

12. DISTRIBUTION/AVAILABILITY STATEMENT

   Approved for public release; distribution is unlimited.

13. SUPPLEMENTARY NOTES

   Contracting Officer's Representative: Scott A. Beal; Subject Matter POC: William J. Walsh

14. ABSTRACT *(Maximum 200 words)*: This report was developed under the Small Business Innovative Research Program, Phase I. The goal of the research was to identify cognitive readiness skills necessary for ground component forces to deploy anywhere in the world on short notice, and the meta-cognitive awareness necessary to be adaptable and learn quickly in an unknown culture. The authors found that Joint refers to a major shift toward blending the doctrine, language, and cultures of the Service branches to enable effective interoperability. Expeditionary means being rapidly deployable, self-sustainable, with the ability to reconstitute rapidly in theatre and assume further mission taskings. Soldiers must have the capability of being effective while operating in a zone of discomfort and making decisions in ambiguous environments. Working with the Center for Army Leadership, the authors narrowed the focus to providing Army Transition Teams with the wherewithal to more efficiently perform their difficult task advising fledgling security forces to achieve self-sustainability. Seven critical issues were identified contributing to the concepts discussed: culture shock, stress, role shock, dealing with foreign nationals, negotiating skills, Service component differences, and cross-culture communication skills.

15. SUBJECT TERMS: SBIR Phase I report   Joint warfighting capabilities   expeditionary mindset   meta-cognitive awareness   stress   computer-mediated training   cognitive tasks   cultural differences

SECURITY CLASSIFICATION OF			19. LIMITATION OF ABSTRACT	20. NUMBER OF PAGES	21. RESPONSIBLE PERSON
16. REPORT Unclassified	17. ABSTRACT Unclassified	18. THIS PAGE Unclassified	Unlimited		Ellen Kinzer Technical Publication Specialist (703) 602-8047

ACKNOWLEDGEMENTS

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Setting the Stage

> *"Before 9/11, this task would have been turned over to highly*
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> *these tremendous quiet professionals, and they are fully engaged in*
> *all theaters, including Iraq. So the rest of us conventional types*
> *had to step up. Schooled in many cases by Special Forces experts,*
> *we had to learn (or relearn) our weapons and tactics*
> *fundamentals, absorb some cultural awareness, and get out to Iraq*
> *and get cracking" (Bolger, 2006, p.3).*

We worked with the Center for Army Leadership, the Combined Arms Center's lead organization for leadership and leader development and education research. Our original purpose was to identify factors associated with a Joint and Expeditionary Mindset that would prepare ground component forces with the cognitive readiness skills necessary to deploy anywhere in the world on short notice, meta-cognitive awareness necessary to be adaptable and learn quickly in an unknown culture, and practical understanding of how to reduce strain of such deployments on relationships with family members. After working briefly with the Center for Army Leadership we determined that a Joint and Expeditionary Mindset exemplified a broad set of emerging challenges for personnel of varied ranks and backgrounds. In fact, under the tutelage of the Center for Army Leadership we were led to narrow our focus to Soldiers preparing for deployment as "Transition Team" advisors.

A Transition Team is an elite U.S. Army team that embeds and trains with the host nation army, police, and other allies in the War on Terror. Transition Teams advise fledgling security forces concerning intelligence, communications, fire support, logistics and tactics. Their aim is to make the host nation unit (battalion, brigade, or division) self-sustainable tactically, operationally and logistically so that the unit is prepared to take over responsibility. Transition Teams are a central part of the strategy to train and equip national security forces, hand over battle space and reduce coalition troop levels. "Before 9/11, this task [placing combat advisors in Iraq] would have been turned over to highly select, rigorously trained Special Forces. We have only so many of these tremendous quiet professionals, and they are fully engaged in all theaters, including Iraq. So the rest of us conventional types had to step up. Schooled in many cases by Special Forces experts, we had to learn (or relearn) our weapons and tactics fundamentals, absorb some cultural awareness, and get out to Iraq and get cracking" (Bolger, 2006, p.3). Ultimately, we understand that whatever is developed for Transition Team advisors will have broad applicability for Soldiers of varied ranks and backgrounds because of the nature of warfare today.

Background

Optimizing the human contribution to joint warfighting, and achieving the revolutionary war-winning capability articulated by the Joint Chiefs of Staff for future operations requires a paradigm shift from traditional methods of war fighting. Future leaders and Soldiers will be required to be technologically savvy, flexible in their approach to problems, willing and ready to share knowledge, and able to work effortlessly with other services and foreign cultures. In the words of Gen Myers: "Execution of complex operations . . . requires knowledgeable, empowered, innovative, and decisive leaders, capable of leading the networked joint force to success in fluid and perhaps chaotic operating environments. Future joint leaders will require more comprehensive knowledge of interagency and foreign cultures and capabilities" (Chairman, Joint Chiefs of Staff, 2005, p.24). What Gen Myers has to said about leaders applies across the board to future force warrior small unit leaders and teams as well as mid level and senior leadership. In effect, our new breed of Soldiers must be cognitively ready for any contingency. Operationally speaking, cognitive readiness means ensuring that leaders and individual Soldiers are mentally prepared to accomplish the mission, and that each warfighter is performing at an optimal performance level with the most effective and affordable tools and techniques.

GEN Schoomaker has pointed out: "Our efforts to reinforce the Warrior Ethos and build resiliency will enable Soldiers, leaders, and units to better respond to ambiguity. They must be resilient to these conditions and mentally prepared to deal with the uncertainty they will encounter. . . . Ultimately, Soldiers will be forced to rely on initiative, decisiveness, mental agility, and resiliency to succeed in the complex, often-irregular environments in which they will operate" (Schoomaker and Brownlee, 2004, p. 15).

Battles of the future will not be fought entirely on the battlefield. In fact, some battles of today are being fought by means other than conventional combat. Today, "winning in war requires achieving desired political aims. Achieving these aims requires resolving crises, winning conventional combat operations, and ensuring stability in affected areas. The joint force must be capable of successfully conducting stability operations prior to, during, and after combat operations or as a stand-alone mission" (Chairman, Joint Chiefs of Staff, 2005, p.9). In fact, future leaders and warfighters must be aware that integrating the full spectrum of military efforts with other instruments of national power is essential to achieving national objectives. Future warfighters must have an appreciation for the fact that military success may only be a small part of the nation's overall strategy to reassure our allies while defeating potential aggressors. "One of the keys to winning a counterinsurgency is to treat prisoners well, because today's captive, if persuaded to enter politics, may become tomorrow's mayor or city council member" (Ricks, 2006, p.49).

Unfortunately, the current model for warfighter training has adapted slowly to fit these changing roles. Military leaders have been groomed throughout their careers to approach certain problems with specific tactics. "Industrial Age militaries decomposed the battlespace, created layered organizations, divided into specializations, and organized forces into hierarchies. Thinking that this approach transformed the complexity of war and large operations into a collection of simple, manageable tasks and problems, the Industrial Age military felt that they were able to focus on the optimization of processes" (Alberts and Hayes, 2003, p.44). This concept of war fighting is changing. The rules of engagement are no longer the same (Cebrowski and Garstka, 1998). Increasing demands are being placed on war fighters at all

levels. Changing circumstances at the national and international level require Soldiers who are able to respond to a wide range of threats with a wide range of options. Consequently, the development of future warfighters depends on adapting to these new threats with new ways of training. Current training heavily emphasizes warfighting skills. Soldiers emerging from this training are specifically equipped to operate within the traditional organizational structure and within expected parameters.

Our focus concentrates on providing Soldiers with the cognitive readiness skills necessary to deploy anywhere in the world on short notice, meta-cognitive awareness necessary for them to be adaptable and techniques that help them adapt quickly in unknown cultures. In order for future warfighters to be effective in the new paradigm, their training must adapt to rapidly changing events and flexible, revolutionary multi-disciplinary organizational structures such as joint and multi-national forces operating in collaborative, distributed, network-centric operating environments. Within this framework, future warfighters must have the knowledge and skills to take part in successful operations in various battlefield and non-battlefield environments such as peacekeeping, stability, humanitarian operations, and working closely with international organizations.

"Effects-based operations are coordinated sets of actions directed at shaping the behavior of friends, neutrals, and foes in peace, crisis, and war" (Smith, 2002, p. 108). Although effects-based operations are not new to the military profession, they have placed new demands on the planning, execution, and assessment segments for commanders. The warfighter understands employment of lethal force; however, lethal force is just one of many options available to commanders, military planners and individual Soldiers patrolling the streets of Iraq. In today's CNN world, it is just as important to keep the electric grid up and running, to keep fresh water available, and to not destroy certain special buildings such as hospitals, mosques, and "baby-milk" factories as it is to put bombs on military targets. Understanding the trickle-down effects of such actions places high cognitive demands on the planning as well as the execution phases of an operation. A training program that can realistically simulate this demanding environment has the potential to more rapidly season warfighters in the science of effects-based operations and prepare them realistically for today's counterinsurgency operations. A training program that enables individual Soldiers to possess a heightened awareness of all the factors that can be brought to bear in insurgency operations provides U.S. forces a better chance of success.

U.S. military strategy and doctrine have begun to shift significantly to more readily adapt to the complexities of today's politically and culturally diverse world. Past doctrine aimed largely at achieving desired political outcomes by using the effects of overwhelming military force. The emergence of a diverse set of adversaries exploiting asymmetries, equipped with increasingly modern weapons and frequently initiating hostilities with decreased warning has put our typical response with the application of power to the test. Instead, we are beginning to see that a measured response or none at all, may have a more beneficial effect (Aylwin-Foster, 2005)

One way that deploying units may be able to ease their transition to stabilization force would be to experience a simulated training program that introduces Soldiers to the kinds of cognitive demands that they will face when they deploy. They could begin such a program while still state-side at their current location. This approach would enable Soldiers to better understand the area they are about to deploy to, what the culture of the indigenous population was like, what their responsibilities might be, and the kind of stressors they would have to face. Such training would allow them to experience the deployed environment virtually before they left their

garrison state-side. This mental preparation for the unusual tasks the unit would be faced with would prepare them cognitively for the challenges they would face in country.

Since cessation of the Cold War, the role of forward-deployed American Soldiers has changed dramatically (Bartone, Vaitkus and Adler, 1998). Modern day forces are often deployed to contingency locations to buttress peace-keeping and humanitarian missions in pernicious and turbulent environments (Bartone and Adler, 2000; Griffith and Vaitkus, 2000). In order to meet demands of the modern-day world and attain the goals of the contemporary military, Soldiers must often be deployed on short notice with the expectation of being gone for extended periods of time. This is particularly true of personnel who are required to not only support military operations, but who also support other global missions such as operations in which they must be interdependent with cultures of other Services, other governmental and non-governmental agencies, multi-national forces and the populations of countries in which such operations take place. Representative human dimension issues include cross cultural clashes, communication difficulties among coalition forces and/or the enemy, morale and performance issues from repeated deployments, rapid integration of new technologies, and mission rehearsal. This new role for servicemen and women may bring about a unique set of stressors on Soldiers. Such long-term interaction with these forces and agencies may have implications regarding the behavior of all Soldiers and the necessary culture change that must occur in the Joint Force. To further complicate matters, Soldiers may deploy in newly assembled teams where members may lack familiarity and history. These teams may often include recently activated Reserve and National Guard Soldiers.

Due to the increased utilization of rapid deployment operations, the success of military operations in the 21st century will depend in large part on how military personnel adapt to the psychological stressors that characterize contemporary deployment environments (Bartone, Vaitkus and Adler, 1998). The stress adaptability of personnel may be heavily influenced by their psychological readiness to engage in deployment operations. Psychological readiness, or cognitive readiness, is a term typically used in the adolescence literature as it pertains to psychological development. For purposes of this report, however, cognitive readiness refers to the psychological and volitional status of military personnel prior to deployment. Soldiers who are more psychologically prepared (high cognitive readiness) should experience positive outcomes prior to and during deployment operations. These positive outcomes may manifest themselves through better psychological adjustment, lower levels of strain, and enhanced individual and unit-level performance. Cognitive readiness, as applied to a military context, is an innovative concept. The terms cognitive readiness and psychological readiness are used throughout this report to signify similar concepts, and should therefore be considered synonymous.

APPROACH

"Ultimately, Soldiers will be forced to rely on initiative, decisiveness, mental agility, and resiliency to succeed in the complex, often-irregular environments in which they will operate." (Schoomaker and Brownlee, 2004, p. 15)

Objectives

The primary goal of Phase I was to develop techniques and methodologies to predict "the cognitive readiness skills necessary to deploy anywhere in the world on short notice, meta-cognitive awareness necessary to be adaptable and learn quickly in an unknown culture, and practical understanding of how to reduce strain of such deployments on relationships with family members." And, using the data elicited by these tools/methodologies "…develop a computer-mediated training environment that can be used to prepare ground component forces with the necessary cognitive skills for the emerging challenges of a Joint and expeditionary force" (Department of Defense, 2005, p. OSD-39). Four specific objectives were established in Phase I to accomplish the primary goals.

Objective 1: Determine Requirements. Our initial contact with the Center for Army Leadership resulted in us narrowing down our view of how to examine the concept of Joint and Expeditionary Mindset. From the broad viewpoint we had going in to the project, we focused our attention on a group that exemplified what the concept meant, namely Transition Team advisors. We worked with the Center for Army Leadership to form a clearer understanding of the current situation with respect to the requirements for deploying Transition Team Soldiers. The Center for Army Leadership provided us with insight into what the training priorities were for this group, and we built on the information they provided us by a literature review and limited front-end analysis. It was amazing how much information was available. Soldiers from senior to lower ranks are willing and eager to share the lessons they have learned about being Joint and Expeditionary. The references listed in this report only touch the surface of what is available to researchers.

Objective 2: Assess Feasible Candidate Training Technologies. Since the concepts we identified in our more focused search for a Joint and Expeditionary Mindset were primarily soft skills, we assessed instructional strategies that matched that type of learning. While some of the instructional strategies examined were distinctly low tech, they still had potential application since Transition Teams had immediate training needs as well as longer term needs. Some of the immediate needs could be addressed more quickly by some of the lower tech approaches which traditionally take less time to develop than high tech solutions.

Several feasible candidate training technologies were also examined. These are more appropriate to the Small Business Innovative Research approach than the low tech, traditional training solutions. Technologies identified and assessed included simulation, intelligent tutoring and distributed training for individuals and teams. We have prepared a matrix comparing the strengths and weaknesses of each instructional strategy and included it as an appendix to this report.

Objective 3: Develop Conceptual Design. The findings and recommendations from Objectives 1 & 2 formed the basis for a conceptual design of a training approach. Several elements comprise the design. The first is a selection of specific training objectives. While we have narrowed down the Joint and Expeditionary training requirements to concentrate on those issues that affect Transition Team advisors day-to-day, we have not developed specific objectives for their training. This task remains to be accomplished very early in Phase II. The source materials for development of those objectives is ready, final filtering by subject matter experts is all that is required prior to formulation of training objectives.

Another element that is necessary for the conceptual design is a method of assessment. By this we mean an approach that integrates well into the training program yet enables leaders and students to clearly recognize whether they have accomplished the training objectives. In our opinion, any such assessment should consist of step-by-step testing along the way to ensure that students are making progress towards achieving the objectives, coupled with a final exercise that places the student in a simulated environment in which he must make the kind of decisions he will be faced with operationally. Our concept of such an assessment tool is similar to one which we have already created for emergency medical technicians – they are placed in a simulated environment that forces them to make the kind of decisions they will be faced with on-the-job. Such a tool works two ways. First, in initial stages, it has a tutor component that intervenes when the student strays from correct behavior. Next, during training leading up to final certification it allows students freeplay so that they can see "what if" they make a mistake. Finally, it provides a similar test environment that provides students and leadership with results that describe the student's strengths and weaknesses.

Objective 4: Assess Feasibility, Usability and Commercial Potential. We will present our concept and approach for providing Joint and Expeditionary Mindset training assistance to Transition Teams to the Army Research Institute and to the Center for Army Leadership. In our opinion, the approach we have outlined in this report addresses the requirements well, provides alternatives for immediate and longer term training, and has much broader applicability to the entire Army.

Army Transformation

The Army is currently in the midst of a profound transformation aimed at refocusing its resources and capabilities on the changing nature and realities of the Contemporary Operating Environment (COE). Engaged in a war fought against global terrorist networks, and with other imminent prospects for irregular warfare, the Army must sustain operations during a period of persistent conflict which blurs the distinctions between war and peace. As noted in Army strategic publications (Department of the Army, 2004), it is departing from attitudes entrenched during decades of planning to oppose conventional enemies. Under these somewhat predictable conditions, fixed assumptions predisposed leaders to seek certainty and synchronization. Today, the Army is operating under totally different conditions. Uncertainty and ambiguity are the rule. The Army recognizes the need to move from pitting a vast hierarchical organization against an elusive, adaptive network, to fielding a lean, flexible force that can respond and adapt rapidly and effectively to constantly changing threats.

The Army's overarching plan for transformation targets three principal objectives: modularity, rebalancing, and stabilization. Modularity at all levels of the organization is providing the necessary basis for increased flexibility. Restructuring is achieving more meaningful mixes of capabilities within components, while force stabilization is aimed at increasing Soldier readiness and cohesiveness.

At the most basic level the Army is working through doctrine and training to change the mindset of leaders and Soldiers in order to achieve necessary transformation. The nature of this desired mindset change is fundamental, and may be best described by contrast to traditional US military ways of thinking.

Max Boot stated, "...But the armed forces need to change more than their organizational chart; they need to change their outlook. Their mindset remains that of a mass army composed of conscripts mobilized to win a big war, but that is not the role of the armed forces early in the 21st century. They are a smaller, all-volunteer force, one of whose duties is policing the Pax Americana" (Boot, 2002, p. 332).

Referencing Eliot Cohen, the author (Boot, 2002, p. 6) describes the difference between the type of warrior needed for the COE and the traditional American Soldier: "The mentality of an imperial army is, of necessity, utterly different from that of a mass army. The former is composed of Soldiers; the latter crusaders. The former accepts ambiguous objectives, interminable commitments and chronic skirmishes as a fact of life; the latter wants a definable mission, a plan for victory and decisive battles. In the imperial army the trooper finds fulfillment in the Soldier's life; in the mass army in the belief that he exists to fight and win America's wars" (Cohen, 2000, p.3).

The major mentality shift described in this quote appears to lie at the center of the goal of achieving a Joint and Expeditionary Mindset. The Joint part of this concept refers to a major shift toward blending the doctrine, language and cultures of the Service branches to enable true interoperability. Operations Other Than War experiences in Eastern Europe, Afghanistan and Iraq have prompted the recognition that this need for cultural interchange and understanding extends well beyond interactions among US military forces to all Joint, Interagency, Intergovernmental and Multinational relationships in the COE.

In its traditional sense Expeditionary has referred to the process of transporting an army to a distant location and carrying out combat operations at the site. As noted by Davis however, a more appropriate definition requires a contemporary look at the nature of expeditionary operations to determine the essence of what the military forces must do as part of this "expedition." General James L. Jones, Supreme Allied Commander, Europe (SACEUR) stated that the term expeditionary . . . describes a pervasive mind-set, a perspective that influences all aspects of organization, training and equipment" (Jones, 2000, p.3). General Jones added to his definition of the expeditionary force attributes such as rapidly deployable, forced entry capable, and self-sustainable. These capabilities need to be coupled with the ability to reconstitute rapidly in theatre and assume further mission takings.

An implicit trait of this type of expeditionary force is the attribute of mental agility. Every Soldier must be mentally agile and able to adapt to each and every type of environment that the COE may present. As described in Army planning documents, achieving this level of agility will involve several types of education and training experiences. Soldiers must be prepared to operate as members of joint, intergovernmental and multinational teams and units

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able to act as "thinking organisms" – prepared to respond to "audibles" in dynamic situations through skill, agility, and teamwork. They must also obtain the capability to be comfortable operating in a zone of discomfort in order to operate and make decisions in ambiguous environments.

Some core concepts that emerge from an examination of the myriad changes that are required to achieve preparedness and a Joint and Expeditionary Mind Set in the COE are cultural awareness, knowledge and skills. These concepts underlie the Soldier's critical need to be able to interact effectively with individuals from different US military subcultures and non-military governmental organizations, military groups from coalition nations, as well as in-country military and police counterparts and foreign civilians. As discussed in Army Special Forces training materials, military operations in general are evolving beyond the categories of joint, interagency or multinational to interdependent operations requiring near seamless integration of all participating elements. Soldiers engaged in interdependent operations must approach any external group or organization (including those composed of fellow countrymen) as they would a member of a foreign culture. To do this the Soldier must have the ability to adapt quickly to the mismatch between his own organization and nationality and those of his counterparts, and gain culturally accurate cognitive awareness, knowledge and skills that are prerequisites of successful interdependent performance (Special Forces Command, 2001).

RESEARCH FINDINGS

Process

We described the objectives that were set for Phase I and how they were accomplished. An important part of the research conducted during Phase I was for our team to settle on what is meant by a "Joint and Expeditionary Mindset." There was no single place we could go to find the concept clearly defined. Rather, by reviewing various Army, Department of Defense and other publications, we eventually came to better understand the nuances of the concept and attempt to incorporate them into our findings.

Joint and Expeditionary Mindset Concept

In the prior sections we tried to set the stage so that the reader would understand the broad areas encompassed by the Joint and Expeditionary Mindset concept. In the monograph "Our Army at War-Relevant and Ready Today and Tomorrow" the concepts are explained as they relate to the Army's view of itself in the present and future (Department of the Army, 2004):

JOINT - Our mindset must be one of joint interdependence – by ensuring that Service core competencies are fully complementary. We must continue our work to move beyond traditional notions of interoperability or integration – preserving essential redundancies while minimizing vulnerabilities – in order to dominate across the Range of Military Operations.

EXPEDITIONARY - As elusive, adaptive enemies seek refuge in the far corners of the earth, harbored by failed or failing states in formidable environments, our prevailing norm will be expeditionary operations. These operations will be characterized by rapid deployment with little to no-notice, contingency operations in austere theaters, and incomplete information to support planning.

Specific Findings – Transition Teams

"Joint, expeditionary warfare places a premium on adapting to the unique circumstances of each campaign" (Field Manual No. 1, 2005, p. 4-11). As such we identified a number of elements that would contribute to the Joint and Expeditionary Mindset. We broke these concepts down into seven critical issues that would need to be addressed in training for Transition Team advisors in order for them to function effectively. The key points are:

1.   Culture Shock. Soldiers are being placed in unfamiliar environments, they are operating alone or with very few others, and must adapt to the culture of the host nation troops with whom they operate and live day-to-day. Often they must operate with other coalition forces, non government officials, other services, other agencies, and individuals with whom they have not had past experience.

2.   Stress. In addition to the unfamiliar cultural aspects of their jobs, they frequently must operate without support as the only individual with the host nation unit, isolated from other

members of their unit. They are constantly faced with the issue of language and cultural barriers, issues of trust, and similar stressful elements that are part of their mission.

3. Role Shock. Soldiers may have been trained in a combat arms specialty, but may find themselves operating with foreign nationals to restore electricity, to ensure a clean water supply, and to eliminate the dumping of raw sewage into village streets. They may be working with village elders rather than other familiar squad or platoon members to perform tasks that they have never done before.

4. Dealing with Foreign Nationals/Counterparts. Soldiers will immediately be forced to deal face-to-face with foreign nationals who may or may not be military members. They will have daily contact and dealings with the host nation personnel with whom they have been placed. In addition, they may also have to deal with third party nation coalition forces to get their jobs done.

5. Negotiating Skills. Transition Team advisors will need to deal with host nation counterparts, host nation civilians, other US service members, other US government agencies and non-governmental officials whatever their assignment and mission. In order to be successful in dealing with their people, the advisors will need to be able to negotiate with them rather than directing them to take action. Persuasiveness in another culture and language are not skills typically taught to our Soldiers.

6. Service Component Differences. In dealing with other services, the advisors will encounter other Americans who have slightly different cultures than their own because they are members of another service component. Terminology will differ, and it will be important that the advisor will need to be aware of that terminology if he wants to be understood.

7. Cross-cultural Communication Skills. Communication skills will be a critical factor in performance of the role of Transition Team advisor. They will need to be aware of both verbal cues and non-verbal cues when communicating with other nation personnel.

While all of these elements are critical to successful performance as a Transition Team advisor, our contacts at the Center for Army Leadership indicated that some have a higher priority than others. They indicated that items 1-4 and 7 were elements with which Transition Team advisors needed particular assistance.

"Seven Core Competencies for Advisors (see Figure 1) have been identified and training is to focus on developing these in Transition Teams: Advisor Skills, Combat Skills, Force Protection Skills, Counter-insurgency Fundamentals, Understanding the Iraqi Security Forces, Team Support Processes, and Technical Training" (Iraq Assistance Group, 2006, p. 2). While the Iraqi Assistance Group's seven competencies are not identical to the seven items we identified as critical for Transition Team advisors, they do map well onto each other. Furthermore, our skill set takes a broader view that focuses on the soft skills that the advisors will need to have to perform well. In addition, we can easily see these same knowledge and skills as a necessary part of the tool kit of every Soldier in today's Army. The importance of these skills is emphasized further by the Combined Arms Center Commanding General's priorities for training: "Our first priority is helping units and leaders prepare to deploy" (Combined Arms Center, 2006, p. 3).
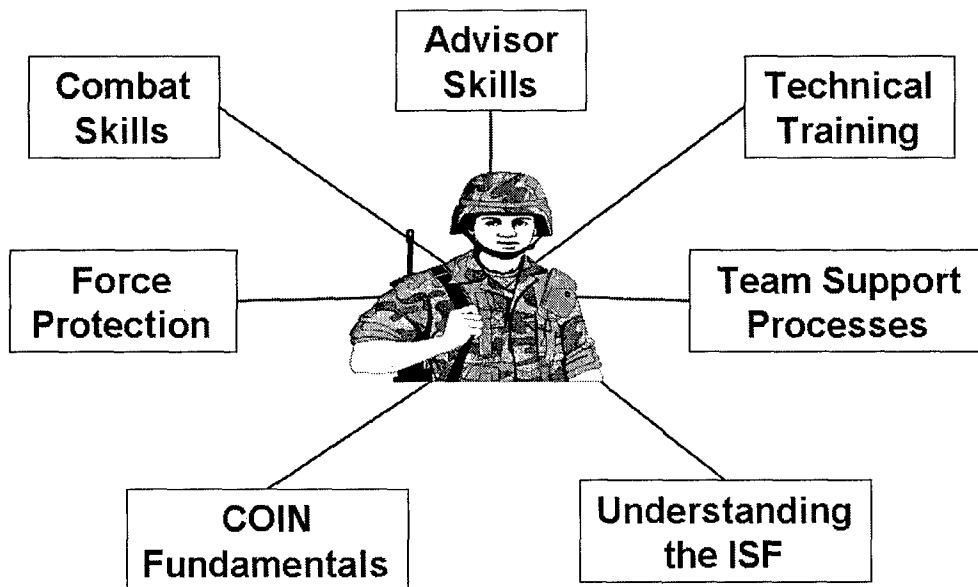
Figure 1. Seven Core Competencies for Advisors

Findings from Potential Deficiencies

Brigadier Nigel Aylwin-Foster, British Army, Commander of the Office of Security Transition in the Coalition Office for Training and Organizing Iraq's Armed Forces has a few things to say about the U.S. Army's weakness when it comes to dealing with counterinsurgency. In particular, the U.S. Army's interaction with the Iraqi population has been less than successful. He offers some insight into why since he has been there. Counterinsurgency doctrine indicates that gaining the support of the local population is a key to success in isolating insurgents. Military operations must be undertaken with care since they must contribute to the political campaign. "This implies that above all a COIN force must have two skills that are not required in conventional warfighting: first, it must be able to see issues and actions from the perspective of the domestic population; second, it must understand the relative value of force and how easily excessive force, even when apparently justified, can undermine popular support" (Aylwin-Foster, 2005, p. 4). In his opinion, and that of many others both foreign and U.S., the Army is inclined to react to insurgents provocations with offensive operations without much consideration of the deleterious effects that usually result.

"No matter how good the information and the method of instruction are in cultural training, acceptance remains a key issue. Cultural information must be demand-driven, practical, and useful from an operational point of view. Soldiers must see that awareness of cultural difference and basic respect for host-nation culture are crucial to force security and/or mission success" (Gooren, 2006, p. 59). This concept is reinforced again by LTG Petraeus, Commanding General, Combined Arms Center, in his article "Observations from Soldiering in Iraq." The general points out 14 observations, perhaps none of which are more important than number 7: "Everyone must do nation-building" (Petraeus, 2006, p. 6)

Army Transition Teams

The modern Army's need to adapt to a fluid mission environment is exemplified by the current requirement for Army Transition Teams in Iraq. As dictated by the nature of the conventional combat operations that were taking place, the multifaceted Joint and Expeditionary Mindset concept was focused on the joint, interagency and coalition aspects of interdependency and cultural adaptation in the earlier stages of this conflict. However at the present time, the emphasis has squarely shifted to the need for Joint and Expeditionary Mindset in dealing with foreign national military and civilians in Iraq.

With the move to transfer responsibility for internal peace to the people of Iraq, U.S. forces are being deployed as small, relatively independently operating Transition Teams to train, advise and assist the Iraqi people in counterinsurgency and stabilization operations. Given the demands for flexibility, agility, cross-cultural awareness, and rapport building skills inherent in this mission, the need for providing the preparation that will endow Soldiers with a Joint and Expeditionary Mindset has never been greater.

This view is supported by a recent draft Army memorandum that defines minimum training requirements for Transition Teams mentioned earlier where core competencies to be achieved include advisor skills, understanding the Iraqi Security Forces, and counterinsurgency fundamentals, as well as more general combat and technical skills, force protection and team support processes (Iraq Assistance Group, 2006).

The challenge of preparing Soldiers for a fluid mission environment characterized by uncertainty and driven by cultural issues is also reflected in a memorandum that lays out the FY 07 Priorities of the Commanding General of the Combined Arms Center (CAC) (Combined Arms Center, 2006). CAC is the Army's lead organization for leader development and professional military education. The first FY 07 priority of CAC is to help units and leaders to deploy. Responding to the current transition environment just described, priorities in leader development and education focus on the need to develop leaders who are multi-skilled, critically reflective, and comfortable with ambiguity. They must be trained to know when to use lethal and non-lethal methods, how to confront uncertain situations, be adept at ethical decision making, and to build teams to lead Soldiers and civilians while engendering loyalty and trust.

Achieving these training goals implies the attainment of a cognitive state of cultural awareness, and the accompanying knowledge and skills. The cultural lens model described by Klein (2004) summarizes how national differences influence the ways in which people make judgments, reason and make decisions. The model shows how cultures vary widely in their cognitive outlook and style of thinking along the dimensions of time horizon, achievement vs. relationship, mastery vs. fatalism, tolerance for uncertainty, power distance, hypothetical vs. concrete reasoning, attribution, and differentiation vs. dialectical reasoning. It follows that, for Soldiers tasked with the mission of transition working in teams with foreign military, police and civilians, success will depend on a refined ability to understand the culture and how it will be reflected in the way people define problems, respond to unexpected events, and revise ongoing plans.

TRAINING REQUIREMENTS FOR TRANSITION TEAMS

The considerations outlined above suggest several areas in which explicit training will better prepare Soldiers for insertion into new cultures and roles, and provide them with skills that should prove invaluable in accomplishing their mission within a foreign cultural context.

1. Culture Shock. Culture shock is a psychological disorientation associated with insertion into a new culture. Its effects on human cognition and effectiveness tend to begin within two weeks of being immersed in a foreign culture and can last up to six months. The rapidly deployed and relatively isolated Transition Team advisor will experience circumstances that are ideal for cultivating this psychological problem including: living and working for an extended period of time in a different environment; having values that are held absolute brought into question because of cultural differences; and being constantly put into situations where they are expected to function with maximum proficiency but where the rules have not been, or cannot be, easily understood.

Training Solution: Training in culture shock coping would permit Soldiers to identify signs and symptoms, understand the progressive stages of the phenomenon and experiences to expect, and develop adaptation and avoidance strategies to foster optimal mission performance.

2. Stress and Coping. Exposure to stressors is a given in the business of warfighting. The inclusion of stress as a training area for Transition Teams should be motivated by the unique conditions that may be experienced by these Soldiers, and the obvious value of avoiding or ameliorating its effects in their critical mission. Like Special Forces engaged in advisor operations, Transition Teams will be in a potentially dangerous environment where an atmosphere of underlying tension is common. Contributors to this tension could include the repercussions of death or serious injury to foreign national civilians in the area of operations, minimal respect for law, order and human rights, and pervasive hostile attitudes held by some of the local population (Special Forces Command, 2001).

Other extraordinary types of stress may be produced by being deployed with individuals from outside one's own unit, being immersed in a foreign culture with little contact with American personnel, and facing challenging deployments of short duration outside one's normal experience and terms of reference. The ability to adapt and learn quickly will be demanded of Transition Team personnel who are expected to be effective within a short time of arriving in theater.

Training Solution: Psychological first-aid (i.e. personal and group approaches to dealing with acute and chronic mission stressors) will be fundamental to initial adaptation and effective ongoing performance. Training for stress management would provide them with an awareness of unique sources of stress confronting the team based on lessons learned from similar mission experiences. It would also develop knowledge of individual/group signs and symptoms of both chronic (cumulative) and acute (critical incident) stress. Finally, it would provide them with an understanding of individual and team coping strategies and techniques (e.g. contingency planning; post-action team discussions; after-action stress debriefings).

3. Role Shock. As noted in Special Forces guidance (Special Forces Command, 2001), role shock can be a serious and often unacknowledged problem for personnel such as those assigned to Transition Teams on overseas deployment, especially in the expected case where they are isolated from most other Americans. It can seriously affect counterpart relations

and mission success. Role shock is a product of the stresses that result from discrepancies between what an individual views as his correct role and what he finds his actual role to be or between the role he expects to play and the role he actually plays. In other cases, the shock is identified with such role related conflicts as the tension between trying to do a job by oneself and advising someone else on how to do it.

The unpredictable nature of transition operations will place Soldiers in multiple roles. As described by General Krulak "In one moment in time, our service members will be feeding and clothing displaced refugees, providing humanitarian assistance. In the next moment, they will be holding two warring tribes apart--conducting peacekeeping operations--and, finally, they will be fighting a highly lethal mid-intensity battle--all on the same day" (Davis, 2004, p. 7). Beyond these constantly changing duties and goals, Transition Teams will be exposed to conditions which create ambiguity regarding their professional roles and about the qualifications and activities of their counterparts – a unique role relationship.

Training Solution: To prepare Soldiers and avoid associated role shock problems, training will be needed to emphasize overarching mission goals and attitudes that can be used to guide behavior under changing task demands and in relationships with foreign counterparts.

4.   Dealing with Foreign Nationals/Counterparts. In order to function effectively in the trainer/advisor role, Transition Teams will require a thorough understanding of the exact nature of their mission–specific relationship with foreign counterparts and an ability to apply cultural awareness in their dealings with foreign military and civilians. Formal indoctrination should clearly identify the Soldier's obligations to support U.S. national policy within the operations area, as well as related obligations to the host nation's government. Training must also clarify command relationships in the advisor role and, using realistic examples, show how command policies can be unintentionally violated and illustrate the consequences of such violations.

Training Solution: Transition Team training in this area would be aimed at giving Soldiers the knowledge to understand personalities, political movements and the social forces acting on them.

5.   Cross-cultural Communication Skills. Communication is the final cultural training area that we identified for Transition Teams. In general, effective communication occurs when a message is perceived and responded to in a manner that the sender intended. Ineffective communication occurs primarily from ill chosen words, poor timing, confused mixture of verbal and nonverbal signals, and poor listening skills. While the barrier of a foreign language is highly significant, and acquisition of language skills is a well recognized training need within the Army, language facility alone (or the availability of high quality interpreters) is insufficient to ensure effective cross-cultural communication.

Training Solution: Training in this area would begin with the development of cultural awareness and the necessity to abandon ethnocentric tendencies. Specific instruction would include guidelines on the level of formality of discourse in the target culture, the degree of permissible directness and explicitness, cultural differences in the perception of time and the relationship between the individual and the group, and the implications of showing emotion. Preparation would also emphasize differences in communication behaviors between the U.S. and target cultures. Examples of potential areas of variation include rules for self-disclosure, preferred and acceptable topics for small talk conversation, favored forms of communication

(e.g. turn taking, argument, ritual exchanges of compliments, etc.), and standards for loudness, silences and delays. Cross cultural communications training should also include instruction in gestures, facial expression, touching, eye contact, body distance and other non-verbal signals that are an important part of human communication, and can vary widely across cultures.

SPECIAL CONSIDERATIONS

"Joint, expeditionary warfare places a premium on adapting to the unique circumstances of each campaign" (Field Manual No. 1, 2005, p. 4-11).

Meta-Cognitive Abilities and Training

"The common thread uniting all training activities is an emphasis on the growth of integrity, courage, initiative, decisiveness, mental agility, and personal accountability. These qualities and attributes are fundamental and must be aggressively cultivated within all Marines from the first day of their enlistment to the last" (Krulak, 1999, p. 21). These words of Gen Krulak are just as valid for preparing Transition Team advisors, or for that matter all Soldiers to face the critical challenges that they will encounter in present and future conflicts.

One of the ways in which we have to prepare individuals to face uncertainty is to make them more aware of themselves and their physical and cultural surroundings. By raising an individual's awareness level we heighten his abilities to anticipate the unknown and prepare him to take appropriate action in unusual environments. So, just how does meta-cognitive awareness fit in when we are talking about training Transition Teams to cope with culture shock, to psychologically prepare themselves for stress, to avoid confusion regarding their role and mission, to understand and interact with foreign cultures and individuals, and to communicate effectively across the culture gap?

What is Meta-cognitive Awareness?

Meta-cognitive awareness involves knowledge of one's own reasoning and of the reasoning strategies employed by others. Cultures differ in regard to maxims and principles that guide conversations and interactions among individuals. When placed in a strange culture, one will behave in many ways that are unacceptable to the culture and conversely, those in the other culture will behave in ways that will seem strange to him.

Linguistic Issues

Communicating with people of other cultures is not always straightforward, even if we know the right words to express the ideas. Principles, identified by linguistics and rhetoric, (Grice, 1975; Chafe, 1972) that guide the production and comprehension of discourse (verbal and written) draw heavily on the ability of humans to recognize and predict the reasoning and knowledge of others and adapt presentation of their own knowledge accordingly. These maxims imply that speakers perform illocutionary acts (formulate speech) manipulating the content and order of mention purposefully, in order to facilitate comprehension. If we are unaware of these cues that people of other cultures look for and provide naturally, then our success at communicating with them may be impeded or impossible.

Because successful communication depends on an individual's awareness of their own meta-cognitive abilities as well as the knowledge of others, being able to identify the extent to which individuals observe or violate these maxims in their interaction with others, whether they are from the same or a different cultural background, could spell the difference between success and failure. Being able to identify important differences between cultures in terms of the conventions that guide discourse and social interaction, may be a critical point for those immersed in an unfamiliar culture. A principled understanding of differences in patterns of social interaction among cultures could serve a starting point for developing the content of a training program designed to prepare ground component forces for the type of confusion that can result not just from linguistic misunderstandings, but from differences in expectations about what information should be presented and in what order. Such an understanding would also constitute an important addition to the existing research base.

Culturally Diverse Team Members

The education and developmental literature that has addressed the development of meta-cognitive skills in children, and particularly children with learning disabilities may suggest strategies for assessment of the same skills in adults and for enhancing them (see Campione, Brown, & Connell, 1988; Brown & DeLoache, 1988; DeLoache, Sugaman & Brown, 1985; Armbruster, Echols & Brown, 1982).

The ability of culturally diverse team members to work together effectively will depend upon the meta-cognitive awareness of one's own reasoning and communication expectations and of the reasoning strategies employed by others. In our opinion, the literature that addresses development of a theory of mind in children (Flavell, 2002 and Flavell, Green & Flavell, 2000) may offer important insights into the cognitive dynamics of cross-cultural interaction. Understanding the process by which children acquire understanding of the mental states of others could be an important foundation for understanding how adults develop an understanding of the mental states of individuals from other cultures whose actions and verbal communication patterns do not seem to be predictable within their existing frame of reference.

Instructional Environment for Enhancing Meta-Cognitive Skills

In developing an instructional environment for enhancing meta-cognitive skills we suggest a review of the literature in education that pertains to the development of learning environments for enhancing cognitive abilities. Some current work by Brown and Ferrara (1999) Brown, Ellery and Campione (1998), and Brown and Campione (1998) relates to programs for developing and enhancing cognitive abilities in children, however, some techniques may be equally effective with adults. The goal in creating a JEMS training program for Transition Teams is, at the very least, to introduce Soldiers to those meta-cognitive skills that make them aware of the cognitive issues which may have an effect on their adaptability and performance capability during deployments. In our opinion, the first step in this process is an awareness of the cognitive factors involved and a mindset that prepares the Soldier to do something about them. In other words, because meta-cognitive awareness involves knowledge of one's own

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reasoning and of the reasoning strategies employed by others, the training program must, as a minimum, prepare them to learn how to learn about a Joint and Expeditionary Mindset. One way in which this awareness can be brought to the attention of individuals is to put them in specific situations in which they must practice the skills. Scenario-based exercises lend themselves well to exactly this kind of learning and practice enterprise.

Of metacognitive skills the following seem to be pertinent to the military concept of cognitive readiness and therefore applicable to any inclusion of metacognitive skills into a JEMS training package (Hacker, 2001, p. 6):

- Self-monitoring and assessment. The ability to monitor and manage one's own thinking and actions.

- Focusing on essentials of tasks. The ability to filter out irrelevancies and direct attention to variables that affect performance.

- Planning. The ability to understand task goals and devise an appropriate plan of action.

- Using strategies. The ability to evaluate individual courses of action in terms of their consequences.

DEVELOPMENT AND IMPLEMENTATION ISSUES

Our concept for putting in place a training package aimed at Transition Teams follows. We envision construction of a package that is tailored to Transition Team needs, yet can be easily adapted to the needs of all Soldiers. It should introduce, reinforce, and exercise the five areas covered in the Phase I analysis and incorporate the meta-cognitive awareness and skills that the research talks about as being so important to forming Soldiers with integrity, courage, initiative, decisiveness, mental agility, and personal accountability.

Refine Requirements

Due to rapid deployment procedures and high levels of uncertainty (e.g., location, duration), the cognitive readiness of deploying Soldiers will depend partially on their cognitive state of readiness before and during deployment. First it will be necessary to understand the Army's current approach to preparation of individuals and units for such deployments. One should examine Army policy, guidance and support mechanisms available to prepare Soldiers prior to and during deployments. Sources such as the Center for Army Leadership should be availed. Each of these items should be assessed as to how it can contribute to a Soldier's ability to be adaptable and learn quickly in an unknown culture. Furthermore, it will be from these specific problem instances that one will be able to begin constructing sample training vignettes or exercises exemplifying the emerging challenges of an expeditionary Army. The results of this task will firmly establish the current user situation and help clarify the cognitive training requirements.

Bear in mind that the immediate task will be to refine those requirements that impact Soldiers who have been selected as advisors working in Transition Teams. Their specific training requirements will encapsulate as a subset the requirements for most deploying Soldiers, since their mission is broadest within the counterinsurgency mission. As we recognize that training requirements for Transition Team advisors may differ somewhat from deploying Soldiers, these differences must be clarified and documented so that later application of any JEMS training package can be easily adapted to suit the larger group.

The goal of the analysis effort will be to further identify and refine knowledge of the critical cognitive factors associated with deployment and mission execution in an expeditionary environment.

As a first step in the analysis, one should build on existing documentation from a variety of sources such as the Center for Army Lessons Learned and the Military Review that establish a baseline understanding of state of the art thinking on counterinsurgency. The Military Review is a journal that explores the art of professional military research. Further refinement should focus on:

- Cognitive readiness indicators and dimensions associated with deploying military personnel;

- Stressors and associated psychological, physiological, and performance effects of deploying personnel;

- Cognitive differences across cultures and groups and how these affect collaboration and interaction;

- Military doctrine and tactics, techniques and procedures associated with counterinsurgency;

- Pogtential training methods for facilitating cultural awareness, adaptation and change; and

- Up-to-date operational lessons learned related to multicultural operational environments.

By synthesizing information from these sources one can identify a candidate set of components and constructs associated with the joint and expeditionary mindset. Results will focus the effort in the area of mission execution factors. Mission execution factors relate to a Soldier's ability to perform effectively in a joint or multicultural environment. These might include differences in cognition across cultures or groups; how differences can affect joint activities such as problem detection and sense-making, planning, and coordination/decision making; the operational impact and constraints imposed by cultural differences on the duties of different branches and echelon levels; features and characteristics of meta-cognitive awareness of these differences; cognitive characteristics and strategies associated with quickly adapting to new cultures; and training strategies for enhancing effectiveness in this environment.

As a final component of the training design phase, subject matter experts need to discuss their own experiences that apply as well as those of other military members with expeditionary and counterinsurgency experience. This reality check will help focus on what is important to the Soldier rather than what is important to the researcher. Ultimately, the point in further defining and clarifying requirements is to develop a JEMS training program that can be used almost immediately in training Transition Teams and by any Soldier about to deploy.

Assess and Select Training Technology

We have already made a preliminary assessment of feasible candidate instructional strategies including computer-mediated training technologies. One should examine the application of such potential training technologies as simulations, distributed training, educational gaming and intelligent tutoring to the Transition Team training requirements. The strengths and weaknesses of each technology should be assessed for the kind of concepts which need to be trained, and its applicability for individuals or teams. An output of this task will describe in detail training scenarios or exercises which the technology or instructional strategy addresses best.

We have described a potential assessment approach that integrates well into this kind of training program yet enables leaders and students to clearly recognize whether they have accomplished the training objectives. Assessment should consist of step-by-step testing along the way to ensure that students are making progress towards achieving the objectives, coupled with a final exercise that places the student in a simulated environment in which he must make the kind of decisions he will be faced with operationally. One concept of such an assessment tool is to place students in a simulated environment that forces them to make the kind of

decisions they will be faced with on-the-job. Such a tool works two ways. First, in initial stages, it would have a tutor component that intervenes when the student strays from correct behavior. Next, during training leading up to final certification it allows students free play so that they can see "what happens if" they make a mistake. Finally, it provides a "test" environment that provides students and leadership with results that describe the student's strengths and weaknesses.

Develop JEMS Training Package

The JEMS training package should be developed in accordance with current Army guidance, specifically TRADOC Regulation 350-70 and its associated documents. This means constructing objectives for each learning point and grouping objectives into logical categories that promote learning. The objectives should be sequenced into lessons and a course or a coherent package that could form part of an existing course. Finally, a script should describe how each objective and lesson is to be presented to the student.

User involvement is a critical factor in development of training. This is especially true when the government's subject matter experts are extremely busy and have very little time to devote to reviewing materials. One potential solution is to use the Internet to deliver draft materials during development and evaluation. This method can reduce the burden on the subject matter experts and enable them to review JEMS training materials at their own pace wherever they may be.

Instructional Strategies

We examined a number of instructional strategies that could have a potential application to the requirements identified for Transition Team advisors. While some of these instructional strategies are technology based, some are not. Many are relatively simple to develop and implement, whereas others – especially the technology-based approaches – require more time and expertise to develop. Yet, the implementation is relatively simple. The table in Appendix A provides a brief cross section of many of the instructional strategies we examined in light of the training requirements. As requirements are detailed more completely, a specific instructional strategy should be selected that best applies to the needs of Transition Teams.

JEMS Evaluation

No training package is ever complete without conducting an evaluation of its effectiveness. JEMS lessons and course should be tested as they are developed to ensure that there are no fatal flaws such as nodes that do not work or links that lead nowhere. Once this testing has been completed, a final check of the training package should be conducted to ensure that all lessons operate together as a unified whole.

The second step in the testing process is to make sure that all technical errors have been eliminated and that the materials are entirely correct. Subject matter experts should review the

materials page-by-page to ensure that there are no technical errors. The subject matter expert will identify any errors found, indicate the correction that needs to happen, and let the developers know so that revisions can be made as soon as possible.

According to MIL-HDBK-29612-2A evaluation should be integrated throughout each activity of the instructional development process. It begins during the planning phase with development of an evaluation plan and continues throughout the life cycle of the training system. The focus of evaluation is continuous improvement of training system quality. Before beginning evaluation of the JEMS training package, an evaluation plan should be prepared. The evaluation plan should specify all the details of the evaluation (some listed below):

- Content Validation
- Trials (Individual/Group)
- Methods for Conducting Trials
- Validation Records & Management
- Criticality Standards
- Methods for Computing Statistical Validation
- Sampling Methods (Fixed/Sequential)
- Sample Target Population Selection
- Data Collection (Demographic/Other)
- Preparation of Students
- Criteria for Estimating Criticality of Deficiencies

Application tests should be conducted (Walsh, Fulbright, Gearhardt, Kastigar and Barber, 2006). Since the JEMS training package will be computer-mediated, conducting try-outs remotely makes sense. Individual Soldiers will be able to use the training package at their own rate, time and speed. As data are collected (including both performance data from students and opinion data from them as well) they should be analyzed. A specific analysis technique should be detailed in the evaluation plan and followed during data analysis. Once the results are compiled, they should be presented to the Center for Army Leadership and the Army Research Institute. Any revisions to the JEMS materials should be based on these results. The evaluation plan will specify what kind of results dictate what kind of changes to JEMS materials.

Conclusion

This report describes the basis for and approach to development of a training package to implement a Joint and Expeditionary Mindset for Transition Teams. We are confident that such a training program will provide an effective learning and exercise capability for Transition Team advisors. We recommend that once the training package has been developed and tested with Transition Teams that it be provided to pre-deploying units as an aid in preparing them for deployment. Once this has been accomplished and the training verified as useful, the final step will be to extend the training package to all other Soldiers.

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APPENDIX A

Training Method	Description	Pros	Cons	Delivery Methods	Assessment
Lecture	Traditional training and education given in front of selected students. Requires training plan and construct of interactive exercise to involve students.	• Easy to develop • Traditional • Can focus on difficult topics • Accessibility to trainer • Ability to role play with present students • Does allow team training or individual focus	• Can be expensive • Poorest retention • Can be inconsistent • Time-restraints • Travel/scheduling • Not challenging to student	Classroom, field, teleconference	Easiest to implement, difficult to manage over distances and schedules. Suited for quick deployment. Does require knowledgeable SMEs and does lack consistency. Estimate 1-3 months to implement
Demonstration	Training that is focused on demonstration of steps or process for specific job task.	• Step by step analysis • Ability for follow-up • Observe real-time	• Expensive • Travel/schedule • Can be inconsistent • Variances to actual situation	Classroom, field, teleconference	Easy to implement, difficult to manage over distances and schedules. Suited for quick deployment. Does require knowledgeable SMEs but does focus on task processes. Estimate 1-3 months to implement
Simulation	Training involving tasks in a simulative environment. Examples include a flight simulator, missile launch simulator, or operations center. It provides the students with a real-world situation in a safe, controlled environment	• Real-time • Realistic • Role-playing • Interactive • Ability to change situation • Allows for independent decision making • Allows for teamwork • High retention • Behavioral-oriented • Challenging	• Expense • Technology limitations • Time-restraints • Delivery method challenges • Requires foundational knowledge of the task	Customized environment, programmatic	Difficult to design, can be expensive, yet provides an optimal "hands on" approach. Challenges student and can accommodate teamwork. Estimate 8-18 months to design and deploy.
Distance Learning (WBT)	Generally web-based training or blended learning approach. Can be adapted for teaming and collaborative efforts, but not a preferred method of team training.	• Asynchronous • Convenience • Consistent • Inexpensive (compared to simulation) • Media Rich	• Not teamwork oriented • Not change-oriented • Specific and rigid • Need Learning Management System	Web, internet/intranet, client-server.	Can be focused and specific to the objectives. Not well suited for teams. Estimate 6-10 months to implement and deploy.

Training Method	Description	Pros	Cons	Delivery Methods	Assessment
Gaming	Training involving scenarios where the students are either first person players or control players in a third person role. The students are assigned the role and must perform task-based objectives in a fictional environment.	• Team-oriented • Engages learner • Provides immediate feedback (cause – effect) • High retention • Behavioral- oriented • Ability to change situation • Allows for independent decision making • Multiple paths to successful outcome • Challenging to students	• Can be expensive • Technology limits • Harder to evaluate success • Multiple paths to successful outcome	CD-ROM/DVD, CBT, WBT, Simulators, and customized delivery systems.	Difficult to design, can be expensive yet provides optimal "hands on" approach and allows interactivity. Provides high retention. Challenges student and can accommodate teamwork. Estimate 6-18 months to design and deploy.
Intelligent Tutor	Enhanced game or simulation where the AI monitors student activities and adjusts the training challenges according to student progress. Compares student performance to "expert" player.	• Tracks students progress • Difficulty increases/changes as the student progresses • Interactive • Immediate feedback • Discussion/Blog	• Expensive • Technology limits • Focused more towards an individual performance vs. team performance	CD-ROM/DVD, CBT, WBT, Simulators, and customized delivery systems.	Difficult to design, can be expensive, interactive. Provides high retention. Challenges student and can accommodate teamwork. Estimate 12-18 months to design and deploy.
Storytelling	An approach where training is achieved through the retelling and recollection of stories. Memory and experience drives the training objectives.	• Interesting • Motivational • Focus on behavior and cultural • Self-awareness	• Objectivity • Miscommunication • Misperceptions	Classroom, field, teleconference, CD-ROM, CBT/WBT	Easy to implement, difficult to manage over distances and schedules. Suited for quick deployment. Requires knowledgeable SMEs but focus on task processes. Estimate 1-3 months to implement
Role-Playing	Students are assigned roles to achieve a desired outcome in a situation. Usually monitored and led by an instructor in a classroom setting. Can be adapted to CBT or gaming.	• Allows for both teamwork and individuals • Good retention • Engaging and interactive • Allows for "reversal" of roles • Unpredictable	• Requires experienced and dynamic design • Dual delivery method • Unpredictable • Can produce unintended results	Classroom, field, teleconference, CD-ROM, CBT	More complex in design than storytelling, yet fairly easy compared to technology based training. Unpredictable outcomes are possible. Estimate 1-3 months to implement.
Scenario-based	Technique that can be incorporated into training courses. Scenarios provide fixed objectives	• Specific to situation • Decision-based • Immediate feedback • Media-rich • Decision Trees (non-linear) • Discussion/Blog	• Requires intricate design • Not team oriented, more geared to individuals • Not as flexible as a simulation approach – does not provide for detailed "what if's".	Application to all of the above methods	More complex in design than role-playing yet fairly easy compared to technology based training. Not necessarily team-oriented. Estimate 4-6 months to implement.

Training Method	Description	Pros	Cons	Delivery Methods	Assessment
Video/Audio-based	Delivery approach	• Highly visual auditory • Good retention • Consistent	• Can be expensive • Dated information • Non-interactive • Not team or individual oriented (neutral – third person observation)	Application to all of the above methods	NA